1. Opening remarks and introductions

The Chairman, Don Tolmie of Los Alamos National Laboratory, opened the Technical Committee portion of the HNF meeting and accepted thanks from the group for Los Alamos National Laboratory, and himself, hosting this meeting. This group is constituted as both the HIPPI special working group (SWG) under X3T11, and the HIPPI Networking Forum (HNF) - Technical Committee (TC).

Don lead a round of introductions. The list of attendees is at the end of these minutes.

2. Review / modify the draft agenda

Draft agendas were distributed via e-mail before the meeting for both the HIPPI-6400 specific portion, and the HIPPI general portion. Hard copies were distributed at the meeting. Item 16.1 was added to address patent issues.

Don Tolmie agreed to take the meeting minutes. The minutes from the HIPPI-6400 specific meeting are separate.

3. Review Minutes of Previous Meeting

The minutes of the X3T11 HIPPI SWG / HNF - TC meeting of April 10, 1996, in Palm Springs were reviewed. Roger Ronald of E-Systems moved, and Joe Parker of Optivision seconded, to approve the minutes as written. Passed unanimously.

4. Review of old action items

The action items from the April, 1996, meeting were reviewed for the current status.

1. Michael McGowen of Essential Communications - Generate a HIPPI switch MIB. (Carryover)

2. Michael McGowen of Essential Communications - Update HIPPI-AC to work with HIPPI-SC and its recent changes. (Carryover)

3. John Renwick of NetStar - Issue a "last call for changes" for the IP over HIPPI RFC. Lacking substantive changes, further the processing towards an IETF standard. (Done)

4. John Renwick of NetStar - Check status of ARP over HIPPI RFC with Phil Cameron of Essential and see if we can get the document moving. (Carryover)

5. Steve Quan of NASA Ames - Set up an e-mail reflector for a HIPPI Users Group. (Overcome by events - Steve Quan has moved to another company and will no longer be participating in the HIPPI standards activities.)

6. Everyone - Do a last check on HIPPI-Serial, especially the optical parameters. Forward any recommended changes to Don Tolmie by April 24. (Done, see item 5.1)

7. Don Tolmie - Collect proposed changes to HIPPI-Serial Rev 2.3, integrate, and have a clean document ready for final vote at the June meeting. (Done, see item 5.2)

8. Tim Clay of Methode Electronics - Investigate a good test pattern for HIPPI-Serial optical components. (Carryover)

9. Don Tolmie of Los Alamos - Draft an SD-3 Project Proposal for a revision of HIPPI-FP. (Carryover)

10. Michael McGowen of Essential Communications - Check with Steve Poole to see if one or more HIPPI-FP ULP-id(s) are needed to support SCSI. (Carryover)

11. Everyone - Suggest changes to HIPPI-FP and bring in proposals for them. (Carryover)

12. Don Tolmie of Los Alamos - Update HIPPI-SC to Rev 3.1 with X3T11 editorial comments. Get it ready for OMC and first public review. (Done, see item 8.1)

13. Don Tolmie of Los Alamos - Update HIPPI-ATM to Rev 1.7 with X3T11 comments. Get it ready for OMC and first public review. (Done, see item 10.1)

14. Don Tolmie of Los Alamos - Fix up an ISO version of HIPPI-ATM. (Done, see item 10.1)

15. Don Tolmie of Los Alamos - Draft an SD-3 Project Proposal for HIPPI-6400-SC. (Done, see item 15.1)

5. HIPPI-Serial

5.1 Optics parameters updates to Rev 2.3

HIPPI-Serial Rev 2.3 had been held at the February meeting for further editing, namely aligning the optics parameters with Fibre Channel. Steve Joiner of HP, and Tom Lindsay of Vixel, have been working on this. Additional comments were received, and revision 2.41 has been available on the web for comment for over a month. The document has been renumbered, without change, to rev 2.5 to fit the X3T11 Chairman's data base.

Don Tolmie distributed a revision list of changes since 2.3, the version in the X3T11 mailing. He also distributed change sheets.

There was discussion on the web concerning the distance that can be supported with 1300 nm and 820 nm lasers over multimode fiber. It was noted that the 1300 nm laser required a pigtail rather than a direct connector. The single-mode fiber pigtail acts as a mode stripper, effectively launching a single mode into the multimode fiber. A reference was added in the Bibliography to a technical paper describing this technique. There was disagreement as to how effective this technique was, and what the supported distance should be. Rev 2.5 states that 1 km has been shown to work effectively.

Tom Lindsay of Vixel argued that the distance number for 820 nm over 62.5 fiber should be 200 meters rather than 300 meters. Vendors are quoting 300 meter distances, and successfully shipping product, but the distance cannot be verified with other supporting standards. It was agreed that the document should state 200 m, and vendors can provide products that exceed the standard.

5.2 Plans for forwarding

X3T11 is scheduled to vote on forwarding HIPPI-Serial Rev 2.5 at this meeting, and Don asked if the working group had any problems with forwarding based on the changes to date. None were stated.

At X3T11, Don will distribute the change list and change pages and try to get acceptance to forward the document for OMC review and first public review. (The document earlier passed an X3T11 letter ballot with some NO votes, and comments. The NO votes and comments have been responded to.)

Henry Brandt of IBM moved, and Bill Boas of Essential Communications seconded, to approve the changes stated, and give Don Tolmie the power to negotiate any requested distance changes to get the document through X3T11 the following day. Motion passed, 7 For, 0 Opposed. (The negotiation action was not needed since Tom Lindsay came into the meeting later and we all agreed to a distance of 200 m for 820 nm over 62.5 fiber. This change required changing the document revision number to 2.6.)

6. IETF related items

6.1 IP over HIPPI, RFC 1374

John Renwick supplied the following report via e-mail on June 5: "The IESG has received a request to consider RFC 1374 (IP and ARP on HIPPI) as a Draft Standard. This has been reviewed in the IETF but is not the product of an IETF Working Group. The IESG plans to make a decision in the next few weeks, and solicits final comments on this action. Please send any comments to the iesg@ietf.org or ietf@ietf.org lists by June 24, 1996."

People were encouraged to respond to help the document along.

6.2 ARP over HIPPI

John Renwick of NetStar has an action item to talk to Phil Cameron of Essential to check the status and see if we can get the document moving. John was not present at this meeting, so the status is the same. Bob Pearson of Essential will follow up on the Essential side.

Greg Chesson asked about using ARP and IP over HIPPI-6400, i.e., where should it be documented. It was stated that tradition has the work being done in IETF, but we could not see any reason that it should not be done in the HIPPI committee as an ANSI standard. Greg Chesson took an action item to work with Bob Pearson of Essential, and John Renwick of NetStar, on ARP and IP over HIPPI-6400.

6.3 HIPPI end-point MIB

Mark Kelley of Cray Research is implementing the MIB, but was not done as of the February meeting. Based on his experience, we will consider document modifications before further processing in IETF. Nothing new was reported. Greg Chesson took an action item to see if Mark Kelley was going to continue.

6.4 HIPPI switch MIB

Michael McGowen of Essential Communications has the action item to develop this document. Essential is hiring, and hopefully this will help the document along. Bob Pearson of Essential will follow up on this, with the first draft hopefully available in August, 1996.

7. HIPPI-AC (Auto Configuration)

7.1 HIPPI-AC SD-3 project proposal status

Don Tolmie reported that this SD-3 project proposal has been approved and assigned number 1163-D.

7.2 HIPPI-AC document status

The document is in development within Essential Communications, and was not available at the meeting. Don Tolmie questioned whether the lack of activity showed a lack of interest, and we should cancel the project. The feeling was that it was useful, and should be continued. Bob Pearson of Essential Communications will follow up.

8. HIPPI-SC (HIPPI-800 Switch Control)

8.1 Status of X3T11 processing

Don Tolmie reported that HIPPI-SC, Rev 3.1, is ready for forwarding from X3T11. They would not forward at the April meeting since the latest changes, even though they were editorial nits, were not included in the document that was in the February X3T11 mailing, or in the hands of the X3T11 members two weeks before the meeting. A clean document was in the June X3T11 mailing, so X3T11 will vote on it this week.

Don also crafted an ISO version of this document for submission to ISO. It is an ISO new work item (NWI), and will also go to the ISO editor for comment during the ANSI X3 first public review. ISO was previously working on Rev 2.6. The X3T11 ISO representative (Horst Truestedt) will see where it stands in the ISO processing chain, and if we can substitute Rev 3.1 in its place. Lacking substitution, we will consider a revision of the HIPPI-SC ISO standard. No action is required by the HIPPI committee now.

9. HIPPI API (Application Programming Interface)

9.1 Status of current work

Steve Poole of Performance Group previously offered to work on an expanded API, both for a driver level, and at a higher level. Ken Morris of Essential Communications will be the document editor with Steve Poole as the technical lead. Neither was present at the meeting, and there was nothing to report. Henry Brandt said that he had talked to Steve Poole recently, and Steve wants to do it, but has lacked the time. Bob Pearson of Essential agreed to help push it.

10. HIPPI-ATM (Mapping to Asynchronous Transfer Mode)

10.1 Status of X3T11 Letter Ballot

Don Tolmie reported that like HIPPI-SC, the HIPPI-ATM document was held by X3T11 due to the changes not being included in the mailing copy. This has been fixed, and Rev 1.7 should be voted on by X3T11 at their June meeting.

 Don also crafted an ISO version of this document for submission to ISO. It is an ISO new work item, and will also go to the ISO editor for comment during the ANSI X3 first public review. No action is required by the HIPPI committee now.

11. HIPPI-MP (Multiple Path)

HIPPI-MP, which stands for "Multiple Path", is intended to provide higher speed transfers by striping, using current HIPPI interfaces and switches.

Don Tolmie, the document editor, reported that he is holding off on updating the original draft so that it may be aligned with the verbiage used for HIPPI-6400-PH scheduled transfers.

11.1 Status of SD-3 Project Proposal

The SD-3 Project Proposal was forwarded by X3T11 at the April meeting, and has been approved by OMC. Its X3 Letter Ballot closes June 21.

12. HIPPI-FP (Framing Protocol)

12.1 Suggested changes for revisions

With work on HIPPI-MP proceeding, a ULP-id for -MP is needed in -FP. At the April meeting a vote to 'revise' HIPPI-FP passed, and a call for other changes was issued.

To date no other changes have been proposed. Don took and action item to post a request for changes on the web page containing HIPPI-FP. Don also has an action item to draft an SD-3 Project Proposal for a revision to HIPPI-FP, and is delaying to see what changes are proposed as they will constitute the "Scope" portion of the SD-3 Project Proposal.

As reported in the April minutes, the proposal to remove the "Offset" parameter was dropped when it was discovered that Hewlett-Packard used the feature.

13. HIPPI-PH Reaffirmation

13.1 Status of X3T11 processing

Don Tolmie reported that Roger Cummings, X3T11 Chairman, has written to the X3 Secretariat, requesting that they take the appropriate actions to reaffirm ANSI X3.183-1991, (HIPPI-PH) without change. The scary part is that the procedures may be changing, and we may be the guinea pig.

14. HIPPI-6400 (6400 Mbit/s Physical and Switching Layers)

14.1 Interim Working Group report

Special working meetings on HIPPI-6400 were held May 9-10, at the Dallas/Fort Worth airport (hosted by E-Systems), May 22, at the Essential Communication in Albuquerque (just considering the header contents) and June 10 in Santa Fe at the same location as this meeting. Work on HIPPI-6400-PH and HIPPI-6400-SC progresses, and work on copper and fiber media for -PH is underway. See the separate minutes for these meetings for further details.

14.2 Status of HIPPI-6400-PH SD-3 Project Proposal

The SD-3 Project Proposal was forwarded by X3T11 at the April meeting, and has been approved by OMC. Its X3 Letter Ballot closes June 21.

15. HIPPI-6400-SC

15.1 Forward SD-3 Project Proposal

Don Tolmie drafted an SD-3 project proposal, which was reviewed at the Dallas meeting, and accepted.

Roger Ronald of E-Systems moved, and Bill Boas of Essential Communications seconded, that the draft SD-3 project proposal for HIPPI-6400-SC be forwarded to X3T11 for further processing. Passed by a vote of 8 for, 0 opposed.

16. Other items

16.1 Patents affecting HIPPI-6400

Francois Gaullier of Hewlett-Packard reported that the HP lawyers are investigating their G-Link patent, number 5,022,051, to see if it also applies to the 4b/5b coding scheme in HIPPI-6400-PH. They hope to have a letter to us resolving it by our August meeting.

Francois also reported that another HP patent may have bearing on HIPPI-6400, and wanted to make the group aware of it. The patent, titled "Inter-Processor Communications System in Which Messages are Stored at Locations Specified by the Sender" is number 5,448,698, dated September 5, 1996. Francois said that HP is checking to see if they feel it is applicable to HIPPI-6400. He will report on it at our August meeting. After a quick look, Greg Chesson stated that he felt the patent may be applicable, but there may also be prior art which would make the patent moot. As examples Greg mentioned OS Bypass at SGI, other APIs by Myrinet and Sun, XTP, HIPPI-MI, and modem and windowing protocols. Greg Chesson took an action item to send prior art to the HP lawyers.

17. Future meeting schedule

17.1 July 10-11, Mountain View, CA

Wednesday, July 10 -
   1 PM - 9 PM — HIPPI-6400
Thursday, July 11 -
   8 AM - 2 PM — HIPPI-6400
   2 PM - 9 PM — HIPPI-6400 copper
The location is on the Silicon Graphics Inc. campus. Hotels in the Mountain View and Palo Alto area are convenient. Greg Chesson and Silicon Graphics are the host. (See the meeting announcement on the web page for details and directions to the meeting room.)

17.2 August 5-6, 1996, Honolulu, HI

During the X3T11 August plenary week , the following HIPPI meetings are scheduled:
Monday, August 5 -
   9 AM - 1 PM — Fibre Chn'l, HIPPI, & IPI tutorial
   1 PM - 9 PM — HIPPI-6400
Tuesday, August 6 -
   8 AM - 9 AM — HIPPI-6400 Optical background
   9 AM - 10 AM — HNF Plenary
   10 AM - 3 PM — HIPPI-TC General and -6400
   3 PM - 6 PM — HIPPI-6400 Optical
   6 PM - 9 PM — HIPPI-6400 Copper
The location is the Ala Moana Hotel, 410 Atkinson Drive, Honolulu, Hawaii 96814-4722, phone (808) 955-4811, Fax (808) 944-2974. The rate varies from $110 to $142, and the group name when making reservations is ANSI/X3T11/Hitachi. Paul Boulay and Hitachi are the host.

17.3 Further out meetings

The schedule for the rest of 1996 is listed below. The Plenary meetings include HIPPI-6400, an HNF plenary, and all other HIPPI items. The Interim meetings cover just HIPPI-6400 items.

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Sep 11-12 Interim  Albuquerque, NM   Los Alamos
Oct 7-8   Plenary  St. Petersburg    AMP
                     Beach, FL
Nov 6-7   Interim  Phoenix, AZ       Loral
Dec 2-3   Plenary  Minneapolis, MN   IBM
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The following 1997 X3T11 plenary week dates are firm, but some locations and hosts are still fluid. No dates, locations, or hosts have been identified for any interim HIPPI-6400 meetings in 1997.

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Feb 3-7    San Jose             Sun
Apr 7-11   Palm Springs, CA     Brocade
Jun 9-13   Seattle, WA          Boeing
Aug 11-15  Honolulu, Hawaii(??) ??
Oct 6-10   Tucson, AZ           FSI
Dec 1-5    Orlando, FL          DPT
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18. Review action items

1. Michael McGowen of Essential Communications - Generate a HIPPI switch MIB.

2. Michael McGowen of Essential Communications - Update HIPPI-AC to work with HIPPI-SC and its recent changes.

3. John Renwick of NetStar - Check status of ARP over HIPPI RFC with Phil Cameron of Essential and see if we can get the document moving.

4. Tim Clay of Methode Electronics - Investigate a good test pattern for HIPPI-Serial optical components.

5. Don Tolmie of Los Alamos - Draft an SD-3 Project Proposal for a revision of HIPPI-FP.

6. Don Tolmie of Los Alamos - Revise HIPPI-FP with the inclusion of a ULP-id for HIPPI-MP.

7. Everyone - Suggest changes to HIPPI-FP and bring in proposals for them.

8. Don Tolmie of Los Alamos – Place a call for changes to HIPPI-FP on the web page containing HIPPI-FP.

9. Greg Chesson of Silicon Graphics – Check to see if Mark Kelley was going to continue work on the HIPPI end-point MIB.

10. Michael McGowen of Essential Communications - Check with Steve Poole to see if one or more HIPPI-FP ULP-id(s) are needed to support SCSI.

11. Greg Chesson of SGI - Work with Bob Pearson of Essential, and John Renwick of NetStar, on ARP and IP over HIPPI-6400.

12. Greg Chesson of SGI - Send prior art concerning HP patent claim to the HP lawyers.

19. Continue work on HIPPI-6400

We were able to finish the main agenda by 10:45 AM, so continued on HIPPI-6400 items until 3 PM. See the HIPPI-6400 minutes for details.

A HIPPI-6400 meeting addressing fiber media followed this meeting, running from 3 PM - 6 PM.

A HIPPI-6400 meeting addressing copper media followed that meeting, running from 6 PM - 9 PM.

Notes from X3T11 Plenary following the HNF-TC

The X3T11 Plenary met the next day, i.e., June 12. HIPPI related items are reported here for your convenience, the definitive record is the X3T11 minutes.

The project for IPI-3 over HIPPI has been withdrawn based on the fact that the material has been included in revised IPI-3 documents now in first public review.

By a vote of 42 for, 0 opposed, and 25 absent, X3T11 forwarded HIPPI-ATM Rev 1.7 for OMC review and first public review.

By a roll-call vote of 42 for, 0 opposed, and 25 absent, X3T11 forwarded HIPPI-SC Revised, Rev 3.1 for OMC review and first public review.

By a roll-call vote of 41 for, 0 opposed, and 26 absent, X3T11 forwarded HIPPI-Serial, Rev 2.6 for OMC review and first public review.

X3T11 accepted the HIPPI-6400-SC SD-3 Project Proposal, and will put it in their next mailing with the intent to vote on it at the August X3T11 plenary.

Attendance

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Charles Brill       AMP
Sheldon Kolansky    Digital Equipment Corp
Bill Boas           Essential Communications
Dan Frigard         Essential Communications
John Gibbon         Essential Communications
Bob Pearson         Essential Communications
Craig Davidson      E-Systems
Richard Ellison     E-Systems
Roger Ronald        E-Systems
Francois Gaullier   Hewlett-Packard
Greg Huff           Hewlett-Packard
Henry Brandt        IBM
Chris Olson         Lockheed Martin
James Hoffman       Los Alamos National Lab
Wally St.John       Los Alamos National Lab
Don Tolmie          Los Alamos National Lab
Ed Calkins          Maximum Strategy
Joe Parker          Optivision
Art Beckman         Silicon Graphics
Greg Chesson        Silicon Graphics
Brad Stamas         STK/Network Systems Corp
Emile Sayegh        W.L. Gore and Assoc.
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